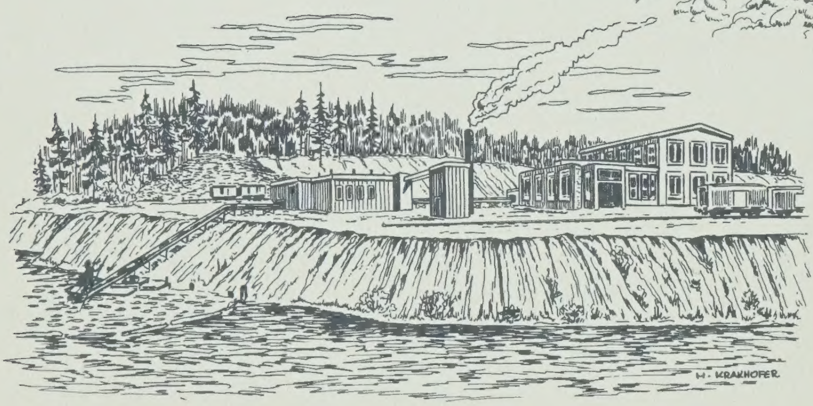
Great Lakes Forest Products Limited

Annual Report 1978



MILESTONES OF PROGRESS

The logos shown on the front cover represent milestones in the evolution of our company. The monogrammed initials of the 1930's and '40's, a period of consolidation and growth, gave way to the anchor of the 1950's, '60's and early '70's when our company underwent a period of massive expansion and diversification. The new logo ushers in a new era for the company as we look to the future.

The original company was formed in 1919 by Backus-Brooks interests of Minneapolis, Minnesota and the first buildings, shown in the illustration opposite, appeared on our present mill site in 1923. In 1927 the original company began construction of a 100,000 ton-per-year newsprint mill. The first paper machine went into operation in 1928 and the second in 1929. Logging in the earlier days is depicted in the illustration above and such methods were used until the 1950's.

During the early 1930's, the original company went into receivership and the present company was formed in 1936 as discussed in the caption on page 7.

In 1955 our major newsprint expansion began as we proceeded with the installation of two new paper machines and extensive alterations and additions to all existing departments. By 1957 No. 3 paper machine was on line and a year later No. 4, then the largest in the world, was completed. At the same time, our woodlands operations underwent major expansion and commenced a modernization program that revolutionized wood production from the horse-drawn methods of old to today's highly mechanized operations.

Diversification began in 1966 with the completion of our first bleached kraft pulp mill. In 1973 our initial stud lumber mill went into operation. Finally in 1976 we completed our most recent expansion and diversification program which included expansion of the stud mill, construction of a waferboard-particleboard plant and our second bleached kraft pulp mill.

HIGHLIGHTS OF '78

1. Net earnings in 1978 were $20.3 million or $5.63 a share versus $14.3 million or $3.97 a share in 1977.
2. Quarterly dividends were resumed on July 4, 1978 at a rate of 15 cents a share and the next dividend payment on April 2, 1979 will be at an increased rate of 25 cents a share.
3. Record shipments for all our products and the rise in the U.S. dollar exchange premium were mainly responsible for the increase in net sales to $277.4 million in 1978 versus $241.4 million in 1977.
4. The increase in the rate of exchange during 1978 on our U.S. dollar sales added $11.6 million or $3.20 a share to net earnings. An adjustment of U.S. dollar exchange on our long-term debt, however, reduced net earnings by 97 cents a share.
5. Long-term debt was reduced to $89.7 million from $126.8 million a year ago and working capital improved to $36.4 million at the end of 1978 compared with $26.7 million the previous year.

SCOREBOARD

'000 omitted	1978	1977
Net sales: Pulp and paper	$239,990	$216,534
Building products	37,372	24,914
Total	277,362	241,448
Operating profit	71,451	56,991
Earnings before income taxes	40,169	25,879
Income taxes	19,856	11,562
NET EARNINGS: Total amount	20,313	14,317
Per share	5.63	3.97
Cash flow	56,039	42,665
Expenditures on fixed assets	7,671	6,337
Working capital at year end	36,427	26,661

Ten-year shipment and financial summaries are shown on pages 21, 22 and 23.

On Inside Pages

Dollars in this report are Canadian unless otherwise identified. Amounts per share are based on total shares issued up to the end of the respective year.

All tons in this report are metric tons. A metric ton is equivalent to approximately 1.1 short tons.

Our Company

The Great Lakes Paper Company, Limited, the name of the company until January 1, 1979 when it became Great Lakes Forest Products Limited, was incorporated under the laws of Ontario in 1936. We manufacture newsprint paper, bleached kraft pulp, stud lumber, waferboard and particleboard. Our mill and head office are at Thunder Bay, Ontario. Mailing address: Box 430, Thunder Bay, Ont., P7C 4W3.

Newsprint Services

Lake Superior Newsprint Co., Chicago, servicing of newsprint paper contracts: BRUCE FALLOWS, *president;* W. D. FROST and O. E. BABCOCK, *vice-presidents.*

Pulp Sales

Lake Superior Pulp & Paper Inc., Chicago and White Plains, N.Y., sale of kraft pulp: BRUCE FALLOWS, *president;* R. L. NASH, *executive vice-president.*

Agents and Registrar

Our common share transfer agents are The Royal Trust Company, Toronto, Montreal, Calgary and Regina, and the Bank of Montreal Trust Company in New York. Our registrar is The Canada Trust Company, Toronto, Montreal, Calgary and Regina.

Shareholders' Meeting

Our shareholders' meeting will be held at 11:30 a.m. Eastern Standard Time in the Confederation Room of The Royal York Hotel, Toronto on Tuesday, April 17, 1979.

Board of Directors at December 31, 1978

C. R. BOWLES *vice-president, finance, Great Lakes Paper Company*	Thunder Bay	1964
KEITH CAMPBELL *vice-president, Canadian Pacific Limited*	Montreal	1971
*C. J. CARTER *chairman of the board and president, Great Lakes Paper Company*	Thunder Bay	1947
*PERCY M. FOX *honorary chairman, Great Lakes Paper Company*	Bermuda	1952
*IRWIN MAIER *director, The Journal Company (publishers of The Milwaukee Journal and Milwaukee Sentinel)*	Milwaukee, Wisconsin	1968
*R. G. MEECH, Q.C. *barrister and solicitor*	Toronto	1936
JOHN N. PATERSON *executive vice-president and general manager, N. M. Paterson & Sons Limited*	Thunder Bay	1975
B. H. RIDDER, JR. *vice-chairman of the board, Knight-Ridder Newspapers, Inc.*	St. Paul, Minnesota	1957
MURRAY D. SEELEY *executive vice-president, operations, Great Lakes Paper Company*	Thunder Bay	1956
*IAN D. SINCLAIR *chairman and chief executive officer, Canadian Pacific Limited*	Montreal	1969
W. J. STENASON *executive vice-president, Canadian Pacific Investments Limited*	Montreal	1972
G. GORDON STRONG *president and publisher, Oakland Tribune*	Oakland, California	1968
J. G. TREZEVANT *executive vice-president, Field Enterprises, Inc.*	Chicago, Illinois	1975
KENNETH A. WHITE *chairman, president and chief executive officer, The Royal Trust Company*	Montreal	1977

**Members of the Executive Committee*

Years denote beginning of connection with the company.

Management at December 31, 1978

C. J. CARTER, *chairman of the board and president*	1947
MURRAY D. SEELEY, *executive vice-president, operations*	1956
C. R. BOWLES, *vice-president, finance*	1964
W. J. STENASON, *vice-president*	1972
M. CEBROWSKI, *vice-president, mill operations*	1964
M. R. MCKAY, *vice-president, woodlands operations*	1944
R. E. CHAMBERS, *vice-president, engineering and services*	1959
M. G. REA, *secretary*	1969
K. E. WINROW, *comptroller*	1971
W. E. MACVITTIE, *assistant comptroller*	1968
D. D. MORROW, *treasurer*	1964
B. R. KERR, *assistant treasurer*	1964
F. H. TOLLEFSEN, *manager, information services*	1966

TO THE SHAREHOLDERS

We experienced a good year in 1978 which was reflected in the strength of our earnings. Demand for newsprint and building products was remarkably strong during the year and the kraft pulp market showed positive signs of recovery in the latter half of 1978. Exchange also had a very favorable influence on our results. Let us hope that these positive elements continue to benefit us in 1979.

Our new company name became effective on January 1, 1979 and with it our new logo which is shown on the front cover together with previous company symbols. The new design is intended to depict in bold simple lines the letter "G" with a triangle representing the coniferous tree, our valuable natural resource.

Through the dedicated efforts of our personnel, some of whom are shown in this report, we established records in nearly all areas of our operations. We are very proud of these accomplishments and we took the opportunity at a regular gathering of our employees to thank them for their contribution. In 1978 we proceeded with our program of meeting with large representative groups of our employees at all levels to discuss matters of mutual interest and review current developments in the industry and in our markets. This is an important element in our employee information program which continues to draw a widespread favorable response.

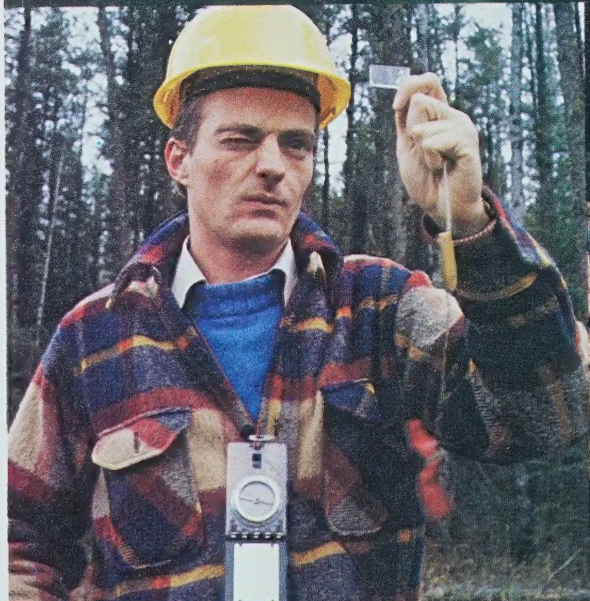
At the last annual meeting of our shareholders Percy Fox announced his intention to step down as chairman. Following the shareholders' meeting, the board appointed him honorary chairman. During his 25 years as chairman Mr. Fox steered the company through three major expansion periods, from the addition of Nos. 3 and 4 newsprint machines to our most recent expansion and diversification program. The directors expressed their gratitude to Percy Fox for his leadership over the years.

The directors extended to the president the office of chairman of the board, a challenge I am happy to accept.

On behalf of the directors,

CHARLES J. CARTER,
chairman and president

Thunder Bay, Ontario,
January 31, 1979.



RECORD SHIPMENTS, SALES, EARNINGS; EXCHANGE A KEY ITEM

Net Earnings Improve Substantially

Net earnings of $20.3 million or $5.63 a share in 1978, which compare with $14.3 million or $3.97 a share in 1977, rose sharply during the year attaining considerable strength by the fourth quarter as shown in the table on page 23. The significant effect of the U.S. dollar exchange premium which averaged 14.7 percent in 1978 compared with 6.9 percent in 1977 and higher shipments for all our products were mainly responsible for the increase in earnings.

Countering these gains were a lower average selling price for kraft pulp in comparison with 1977, continued escalation of operating costs and a strike, discussed on page 10, which reduced earnings by an estimated $1.2 million or 34 cents a share in 1978. Earnings were also reduced by $3.5 million or 97 cents a share in 1978 as a result of an exchange adjustment on our long-term debt.

Dividends Resumed

Quarterly dividends at a rate of 15 cents a share were paid commencing July 4, 1978. Dividends were last paid in 1972 and were discontinued during the intervening years in order to help finance the major expansion program. In resuming dividends, the directors expressed an intention to continue dividend payments on a quarterly basis and to increase the rate subject to continuing improvement in the company's financial position.

The quarterly dividend rate was increased to 25 cents a share at a meeting of the directors on January 31, 1979 and the dividend payable April 2 will be at this new rate.

Shipments Up for all Products

Shipments for 1978 and 1977 are shown in the table below. The substantial increase in kraft pulp tonnage reflects the improved operations in the kraft mill during 1978 compared with 1977 when the new mill underwent its break-in period. Increased shipments of newsprint and building products reflect strong demand during the year.

	1978	1977
Newsprint (000 metric tons)	362	338
Kraft pulp (000 metric tons)	327	304
Stud lumber (millions of board feet)	103	86
Waferboard (millions of sq. ft. on a ⅜-inch basis)	97	75

Sales Show Sharp Increase

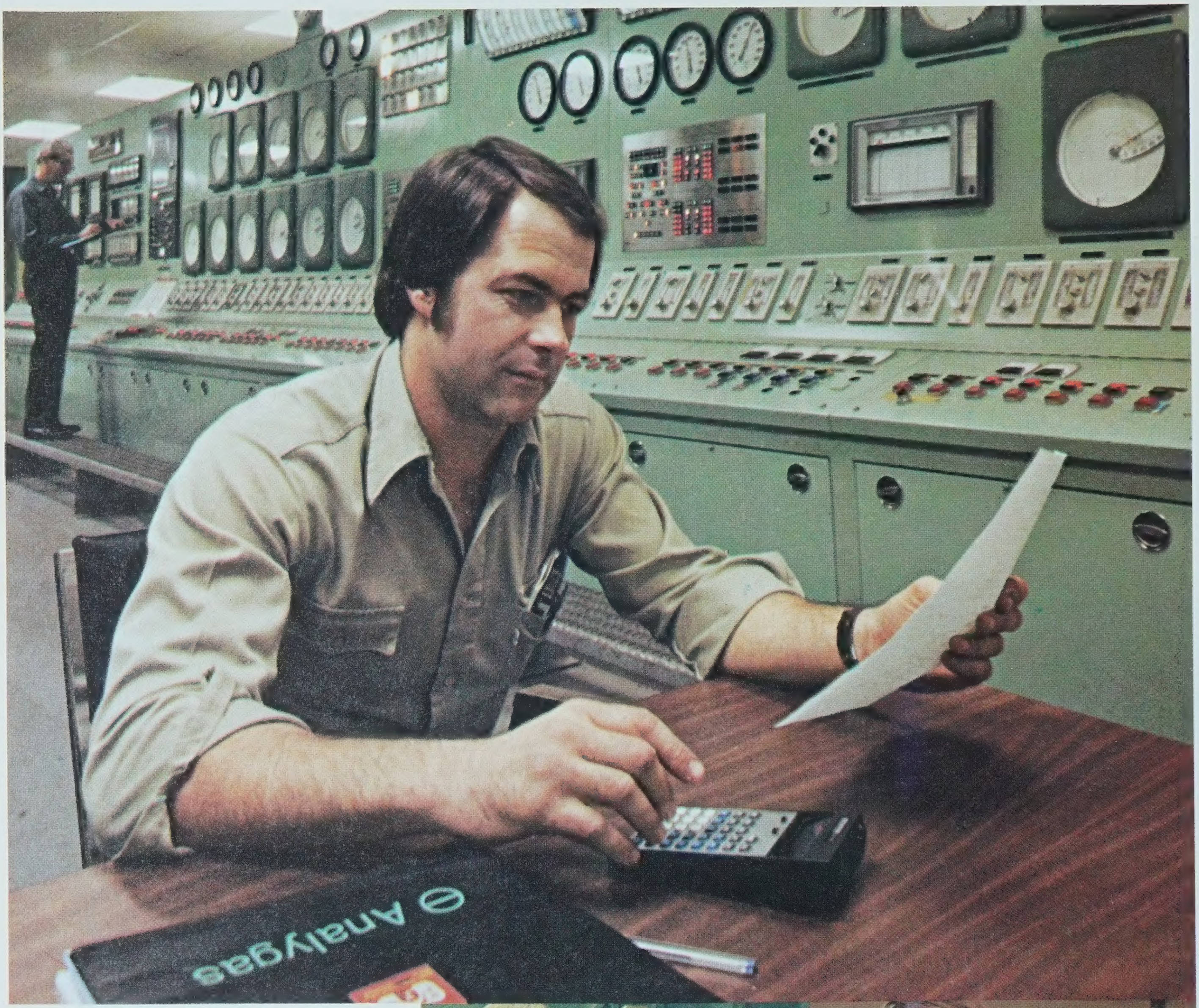
Net sales of $277.4 million were up 14.9 percent over $241.4 million in 1977. Newsprint and pulp accounted for $240 million in 1978 compared with $216.5 million in 1977 and building products net sales were $37.4 million versus $24.9 million in 1977. Increased shipments of all products, the U.S. dollar exchange premium and improved market conditions were responsible for higher net sales.

This automated woodlands production unit, upper left, the Koehring shortwood harvester, fells trees, delimbs them, cuts them into eight-foot lengths, accumulates a seven-cord load which it delivers to the roadside for pick-up later on. An operator such as Ken Simpson must ensure that this complex machine is maintained at peak efficiency.

Chain saw operators such as Peter Briska perform a key function in our integrated approach to tree harvesting by cutting in areas where this method is most efficient and productive. He fells, delimbs and tops the tree ensuring maximum utilization of the available wood fibre.

Unit forester Jim Miller is estimating timber volume by using a wedge prism. As well as compiling information on the timber quality and ground conditions, Jim inspects cut areas to ensure that sound forest management practices are followed.

Scaler Earl Strey measures wood produced, maintains accurate wood inventories by species, records their location and inspects the wood for quality. From such information deliveries to the mill are scheduled.



The recovery of spent chemicals from the pulping process is an important aspect in the manufacture of kraft pulp. Shown in the recovery control room, shift superintendent Ian Robinson is responsible for operation of the recovery system during his tour of duty.

Beverly Forrest, a tester in the kraft pulp mill, checks a finished sheet of fully bleached pulp for cleanliness, brightness, moisture and weight to maintain consistent quality of our finished product.

As an instrument technician, Brian Sissons is responsible for installing, calibrating and maintaining the wide range of instruments which are a vital part of our automated operations.

R. G. Meech, Q.C., a director of our company since 1936, is a key link with its origin. After the predecessor company failed in the early 1930's, a bondholders' protective committee was formed with the intention of taking the enterprise out of receivership and re-establishing it as a viable company. This was a difficult task during the depression years, but the committee succeeded and the present company was formed in 1936. Mr. Meech, who was secretary of the committee, played an active role in the formation of our company and has been active in company affairs ever since.

Markets Generally Favorable

Newsprint demand gained strength in 1978. We increased our price on April 1, 1978 and on October 13 announced a further increase which will be effective early in 1979. The market for kraft pulp began to improve during the latter half of 1978 as excessive worldwide inventories returned to normal levels. We increased our price for kraft pulp commencing October 1, 1978 recovering a portion of the price reductions experienced in 1977. The market for building products showed considerable strength in 1978 and prices reached high levels as a result of the residential construction activity in the U.S. and Canada.

Exchange Impact

In 1978 our average exchange premium on U.S. dollar sales was approximately 14.7 percent compared with 6.9 percent in 1977. Since almost all our shipments are to the U.S. market, the exchange rate has a major bearing on our earnings. The increase in the rate of exchange during 1978 on our U.S. dollar sales added $11.6 million or $3.20 a share to net earnings. Partially offsetting this gain was an exchange adjustment on our $30 million (U.S. funds) income debentures reducing earnings by 97 cents a share, as discussed on page 8.

To illustrate the significant impact of exchange premium and discount on our earnings over the past 20 years, the chart on page 9 compares our reported earnings with those that would have resulted had the U.S. and Canadian dollars remained at par.

Depreciation Unchanged, Interest Changed Favorably

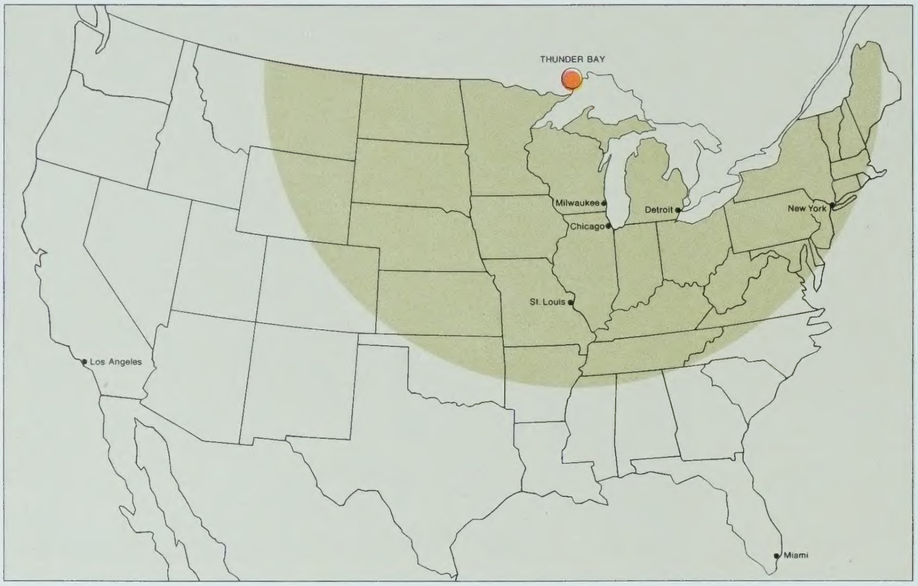
Depreciation in 1978 was $16.7 million, virtually unchanged from the high in 1977 which resulted from the commencement of operations of the new kraft pulp mill. An explanation of our depreciation practice is discussed in our accounting policies on page 18.

Interest expense in 1978 was $12.2 million versus $13.6 million the previous year due to a reduction in borrowings. Interest and other income increased by approximately $1 million in 1978 as funds were accumulated and invested in term deposits.

Taxes Deferred

Income taxes have been provided on our earnings at an effective rate of 49.4 percent in 1978 versus 44.7 percent in 1977. The increase in the rate is partially due to the one percent increase in the Ontario corporate tax rate but more significantly to the charge against earnings for the exchange adjustment on our U.S. dollar income debentures, which charge is not deductible in determining income taxes.

Due to the heavy outlay for capital expenditures in recent years for our



OUR MARKET AREA The bulk of our production is shipped to customers in the shaded portion of the map of the United States which extends in a radius of approximately 1,000 miles from Thunder Bay. Virtually our entire newsprint and kraft pulp market at present lies within this area with newsprint concentrated in the central and western section and kraft pulp extending into the central and eastern section. Our building products are also sold throughout the shaded area, as well as to customers in Canada.

expansion program, much of which was eligible for accelerated rates of write-off for tax purposes, virtually all our taxes for 1978 and for several previous years have been deferred. However, with the current level of earnings, it is expected that the company will have to pay income taxes in 1979 enabling the company to use investment tax credits accumulated from 1975 to 1978. At the end of 1978, investment tax credits were available to be applied to reduce income tax payments by $5.9 million which, when applied, would favorably affect net earnings by an estimated $3.3 million.

Borrowings Reduced

The company's long-term debt, after deducting amounts to be repaid within one year, was $89.7 million at December 31, 1978 compared with $126.8 million a year earlier. This substantial reduction is due mainly to a decision to prepay the $30 million (U.S. funds) income debentures in early 1979.

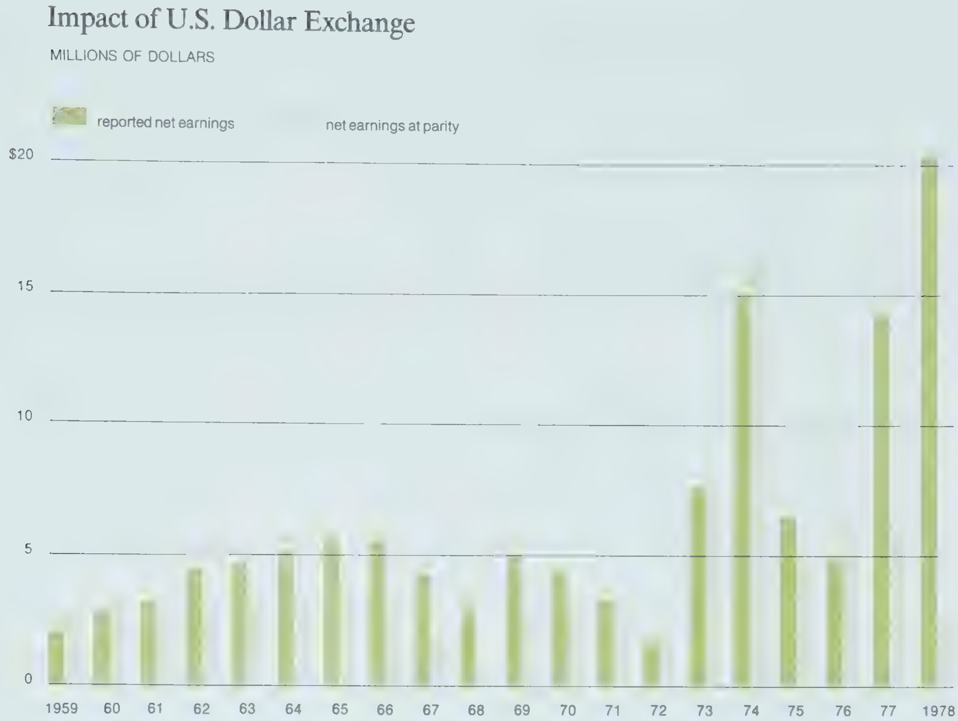
As discussed in the previous section, the company is expected to return to a taxable position in 1979 after several years in which virtually all income taxes were deferred. The conditions which made income debentures an advantageous form of borrowing will, therefore, no longer apply in 1979. Consequently, a decision has been made to prepay the outstanding $30 million (U.S. funds) income debentures in early 1979, approximately one year earlier than their present maturity date. The $30 million (U.S. funds) has, therefore, been treated as repayable within one year, reducing working capital and giving rise to a foreign exchange charge against earnings of $3.5 million to reflect the current exchange rate on this debt.

Working Capital Improved

At the end of 1978 working capital amounted to $36.4 million compared with $26.7 million the previous year. Cash flow from operations in 1978 contributed $56 million to working capital compared with $42.7 million in 1977. Charges against working capital in 1978 were $37.1 million for reduction of long-term debt, $7.7 million for capital expenditures and $1.6 million for dividends.

Cash and term deposits amounting to $43 million at the end of 1978 are largely committed to debt retirement.

The chart illustrates the effect of fluctuations in the U.S.-Canadian dollar exchange rate over the past 20 years by comparing reported net earnings with net earnings which would have been reported had the two currencies been at parity.



Our Environmental Program

In 1978 our environmental improvement efforts centred mainly on the closed-cycle system in the new kraft pulp mill. This is a new concept which is being implemented for the first time on a mill scale basis. The system provides for the recycling of kraft processing wastes within the mill operation with the objective of discharging only essentially clean water to the river.

Application of this technology to the mill's operation was progressing satisfactorily until mid-year when unforeseen corrosion problems related to the closed-cycle process occurred in the recovery boiler. This situation imposed restrictions on the closed-cycle operation until the beginning of 1979 pending delivery and installation of replacement equipment.

We will continue to proceed with the development of this system although some modifications may be necessary before we can meet the desired objectives. Application of the closed-cycle system to our first kraft mill is in the planning stage and, as soon as the present development work is completed on the new mill, we plan to proceed with the second phase of our program.

The Ontario Ministry of the Environment, as well as federal government authorities, have been kept fully informed of these developments and we continue to work closely with both bodies in all aspects of our environmental improvement program to meet the guidelines established by governmental authorities.

Government Involvement Expanded

In 1978 both the Ontario and federal governments proposed incentive programs, discussed below, which are intended to assist the pulp and paper industries in improving pollution abatement, forest management and plant modernization. We believe such programs indicate that the governments recognize the contribution our industry makes to the economy and they represent an effort to alleviate some of the cost disadvantages we face by assisting us in implementing programs which provide considerable benefits for the general public.

A $100 million proposed incentive program announced by the Ontario government in early December 1978 is intended to provide $1 for every $3 spent by the industry on projects to modernize plants and

alleviate pollution. Costs of pollution abatement are substantial with little, if any, contribution to profitability. Our company alone has spent over $30 million in capital costs on our environmental program since the mid-1960's with very little assistance from our governments. The proposed incentives, therefore, will be welcome provided they are allocated equitably.

In another form of incentive to foster improved forest management, the federal Department of Regional Economic Expansion has entered into an agreement with the Province of Ontario to provide $71.5 million for forest management in Ontario. Of this total, $60 million is provided for roads on a cost-sharing basis with industry and is intended to encourage harvesting of new areas, better utilization of mature timber and provide access to areas in need of regeneration treatment as well as access for public travel.

A further change which will affect our industry is that the Ontario Ministry of Natural Resources has apparently opted for a program known as "privatization" of forest management with the principal objective of improving forest regeneration on Crown lands. This program would transfer the onus of responsibility for forest management from the Ministry to private industry by means of a new form of licensing agreement. While details have not been finalized, we fully support the objective of the program and are willing to accept this responsibility provided the Ministry's regulations and standards are reasonable and do not place an undue cost burden on industry. Regeneration costs are currently funded by the government and are reflected in stumpage dues paid by the industry. If these costs are to be assumed in the future by the industry, provision must be made for appropriate compensation. Furthermore, the achievement of improved results will necessitate additional investment by the industry and we require assurance that the areas regenerated by the company will be available to it for the harvesting of the trees when they mature.

Labor Agreements Signed

In 1978 we signed two-year agreements with all unions representing our employees. The contracts were in line with settlements negotiated throughout the industry in eastern Canada. We experienced a strike by our electrical workers which lasted just over a week causing a shutdown of most of our operations during this period. The mill and office workers agreements expire on April 30, 1980 and our woodlands agreement, on August 31, 1980.

Market Outlook

U.S. newsprint consumption established a new high of 9.9 million metric tons in 1978, up 6.4 percent over 1977. This strong demand is expected to continue in 1979 with consumption moderately higher than 1978. Canadian producers can be expected to maintain their leadership position in the U.S. market but this will be eroded when expansion programs now underway in the U.S. come on stream. U.S. newsprint capacity will show a substantial increase compared with the limited expansion plans in Canada. While the outlook for newsprint in the foreseeable future is favorable, there will be the usual cyclical patterns over the longer term caused by fluctuations in supply and demand.

The uniformity and precision of our stud lumber is largely dependent on the efficiency of the saws that cut the 2 × 4's as well as other chipping and cutting equipment. As head filer, Wally Bennet maintains this equipment in peak operating condition.

Slices, or wafers, of poplar which have been coated with resin glue are formed into thick mats at the forming station in the waferboard plant, lower left, before they enter the press where heat and pressure convert them into waferboard. William Gibson, forming station operator, is shown at the forming station control panel which regulates board weight, caliper and other features.

Vibration and balancing of newsprint reels are key factors in the production process and must meet precise requirements at critical speeds to maintain efficient operation and protect the life of the reel as well as the quality of the finished product. Class "A" mechanic Gerry Kruppa, lower right, is running a vibration and balancing test.

The recovery in demand for bleached kraft pulp experienced during the latter part of 1978 is expected to continue in 1979 and we look for improvement in prices. Over the longer term, we believe that the market for bleached kraft pulp is promising although, as in the past, there will be periods of softness from time to time. The market will likely be affected in the next year or so by several projects to increase kraft pulp manufacturing capacity in both Canada and the U.S.

The outlook for building products is somewhat uncertain at present due to high interest rates which will likely discourage mortgage borrowing and thus reduce the number of housing starts in both Canada and the U.S. We expect this will lead to a softening of the building products market in 1979. Over the longer term it is expected that this market will gain strength as economic conditions improve and the need for housing exerts increasing pressure.

Company Outlook

Our sales of pulp and paper are expected to remain strong in 1979, with favorable markets predicted for both products. These positive factors will be partially offset by the anticipated softness in the building products market. While the course of the Canadian-U.S. dollar exchange rate is unpredictable, the expectation is that it will continue to benefit us. Barring unforeseen adversity, therefore, we expect the favorable trend in our earnings in 1978 to continue in 1979.

We have extensive modern mill and woodlands facilities which compare with the best of their kind anywhere and capable personnel with many years of experience. We are now widely diversified in our operations enabling us to take best advantage of our resources and providing a wider range of marketing opportunities. The high level of debt in recent years, resulting from our major construction program completed in 1976, has been sharply reduced. Countering these positive factors are continuing cost inflation and the detrimental effect of new pulp and paper manufacturing capacity being introduced in our markets over the next few years. Our future development will also continue to be affected by measures over which we have no control, such as interest rates, the course of exchange rates and political uncertainties here and elsewhere.

Viewing our long-term prospects, we feel we are in a strong position and will continue to meet the growing competitive challenge in the marketplace. There is no doubt that current favorable economic conditions can readily be reversed as in the past but, short of unforeseen misfortune, we believe that our company is well honed to serve the best interests of all those who share its future.

Since it is essential that the purest possible water be used in our high pressure boilers to maintain the quality of our products and reduce the risk of internal corrosion in the boilers, it is necessary to follow a special demineralizing procedure. The control panel for this process is shown being checked by general engineer David Rose.

GLOSSARY OF TERMS

NET SALES: The Canadian dollar proceeds from the sale of products after deducting costs of delivery to customers.

OPERATING PROFIT: Profit realized from manufacture and sale of products after deducting all costs except interest, foreign exchange on long-term debt, depreciation and income taxes. Applies to operations only; does not include investment or other income.

DEPRECIATION: The distribution on a yearly basis of the original cost of a fixed asset (defined below) over its estimated useful life, which is written off as a deduction from earnings.

NET EARNINGS: Total income less all costs; the net amount available from the year's operations to pay dividends or retain for use in the business.

CASH FLOW: Total funds generated by operations in a year. In our case, cash flow includes net earnings and charges not affecting working capital; principally depreciation and deferred income taxes.

RETAINED EARNINGS: Accumulated total of annual net earnings since the start of the company (1936) less dividends to shareholders during the same period.

CURRENT ASSETS: Assets which, in the normal course, will be converted into cash or consumed in operations within the following year.

FIXED ASSETS: Assets, such as land, buildings and machinery, held for long-term use rather than for sale or consumption in operations.

CURRENT LIABILITIES: Amounts owed (including a portion of long-term debt) due for payment within one year.

LONG-TERM DEBT: Amounts borrowed for a term of longer than one year.

SINKING FUND: Amounts paid to independent trustees of our bond issues, as stipulated in the trust deeds of these issues, to provide annual instalments for their redemption.

WORKING CAPITAL: Amount by which current assets exceed current liabilities, both as defined above. This is a measure of working or operating resources.

BALANCE SHEET: Statement of financial position at a year end showing what is owned (assets of all kinds) versus what is owed (liabilities of all kinds) and shareholders' equity; set forth in accordance with The Business Corporations Act (Ontario). The word "Consolidated" means that all subsidiaries are included to show position of the enterprise as a whole.

SHAREHOLDERS' EQUITY: Value of the shareholders' ownership or interest in the company on an historic basis. Consists of share capital plus retained earnings and is the amount by which assets exceed liabilities.

OUR POSITION ON INFLATION ACCOUNTING

High rates of inflation in recent years have led to a renewed search by accounting and financial bodies throughout the major industrial countries of the world for a method of measuring the impact of inflation on reported financial results. Proponents of inflation accounting point out that conventional financial reporting does not give effect to the escalating cost of replacing fixed assets and inventories nor to the counter-effect of repaying long-term debt using currency of less purchasing power. Two different approaches to measuring the impact of inflation have been proposed and for each there are various methods of application.

The first approach, known as general price level adjustment, proposes that inflation be measured in terms of the loss in purchasing power of the currency. Methods developed under this theory generally involve restatement of the conventional financial statements using an index that measures inflation in the economy as a whole. Although this approach has the merit of being more uniformly applied among various companies, it suffers in the use of an economy-wide index which does not recognize that different industries and companies may be affected differently. In addition, the restated amounts do not represent the current worth of the assets or liabilities to the specific business.

The second approach, known as current value accounting, proposes to measure the effect of inflation by determining the current worth of the assets and liabilities and computing earnings based on the revised amounts. The determination of current worth is a highly subjective exercise and, depending upon individual judgment, can result in a wide array of values with little or no comparability between companies.

Over the past few years, we have participated with others in the Canadian forest products industry in studies using both approaches to inflation accounting. Our conclusion is that neither approach measures the effect of inflation in a way which gives proper recognition to the individual circumstances of each company and at the same time, retains an acceptable degree of comparability between companies. Until a method meeting the foregoing objectives does emerge, we do not plan to report inflation-adjusted information as we believe the risks of misinterpretation outweigh any possible usefulness to the readers of our financial statements.

FINANCIAL REPORTING CHANGES EFFECTIVE FOR 1979

FOREIGN EXCHANGE

A recent recommendation of the Canadian Institute of Chartered Accountants provides for certain changes in the method of accounting for foreign exchange from previous generally accepted practice. The principal area of difference from our policy, enunciated in Note 1 to our financial statements, is the requirement to value foreign currency long-term debt at the current, rather than the historic, exchange rate and to amortize the resulting difference over the remaining life of the issue.

We will give effect to this recommendation when it becomes mandatory in 1979 at which time it will apply to our $20 million (U.S. funds) 8¾ percent debentures and will require restatement of 1978 figures and an adjustment to retained earnings to give retroactive effect to the amortization.

LEASES

Another recent pronouncement of the Canadian Institute of Chartered Accountants relates to the method of accounting for leases. Leases which transfer substantially all of the benefits of ownership to the lessee will require treatment as an asset acquisition and a debt obligation with corresponding charges to earnings for depreciation and interest instead of the current charge for rental expense.

This proposal will also be recognized by us when it becomes mandatory in 1979 and will apply to a substantial portion of our woodlands buildings and equipment which are under this type of capital lease. Restatement of 1978 figures and an adjustment to retained earnings will be required at that time to give retroactive effect to this change.

EARNINGS

consolidated statement for years ended December 31 (thousands of dollars)

	1978	1977
Net sales:		
Pulp and paper	$239,990	$216,534
Building products	37,372	24,914
	277,362	241,448
Cost of sales	200,058	179,447
Selling and administrative expense	5,853	5,010
OPERATING PROFIT	71,451	56,991
Interest and other income	1,192	160
	72,643	57,151
Interest (Note 7)	12,247	13,552
Foreign exchange on long-term debt (Note 4)	3,496	—
Debenture issue expense	—	694
Depreciation	16,731	17,026
EARNINGS before income taxes	40,169	25,879
Income taxes	19,856	11,562
NET EARNINGS for year	$ 20,313	$ 14,317
Net earnings per share	$ 5.63	$ 3.97
Net earnings per share fully diluted	$ 5.29	

RETAINED EARNINGS

consolidated statement for years ended December 31 (thousands of dollars)

Retained earnings at beginning of year	$ 76,188	$ 61,871
Net earnings for year	20,313	14,317
	96,501	76,188
Dividends declared	1,625	—
RETAINED EARNINGS at end of year	$ 94,876	$ 76,188

BALANCE SHEET

consolidated statement at December 31 (thousands of dollars)

Assets	1978	1977
CURRENT ASSETS		
Cash and term deposits	$ 43,020	$ 3,970
Accounts receivable	38,262	29,194
Inventories:		
Finished goods	1,038	1,413
Pulpwood and sawlogs	15,334	14,446
Materials and supplies	11,256	9,847
Prepaid expenses	508	402
	109,418	59,272
FIXED ASSETS (Note 2)	369,700	362,369
Accumulated depreciation and depletion	152,087	135,589
	217,613	226,780
	$327,031	$286,052

AUDITORS' REPORT TO THE SHAREHOLDERS

To the Shareholders of Great Lakes Forest Products Limited

We have examined the consolidated balance sheet of Great Lakes Forest Products Limited (formerly The Great Lakes Paper Company, Limited) as at December 31, 1978 and the consolidated statements of earnings, retained earnings and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the company as at December 31, 1978 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Toronto, Canada, January 20, 1979

THORNE RIDDELL & CO.
Chartered Accountants

Liabilities	1978	1977
CURRENT LIABILITIES		
Accounts payable and accrued charges	$ 27,650	$ 23,243
Income and other taxes payable	3,853	4,098
Dividend payable	542	–
Current portion of long-term debt (Note 4)	40,946	5,270
	72,991	32,611
LONG-TERM DEBT (Note 4)		
First Mortgage Bonds:		
8% sinking fund bonds, Series B, maturing 1989	15,740	16,430
11¼% sinking fund bonds, Series C, maturing 1995	34,420	35,000
8¾% debentures maturing 1984 (U.S. $20 million)	20,966	20,966
Income debentures maturing 1980 (U.S. $30 million)	31,704	31,704
Term loan	24,000	28,000
	126,830	132,100
Current portion	37,084	5,270
	89,746	126,830
DEFERRED INCOME TAXES	66,668	47,673
Shareholders' Equity		
Common shares without par value (Note 5):		
Authorized 4,500,000 shares		
Issued 3,610,039 shares (1977–3,610,029)	2,750	2,750
Retained earnings	94,876	76,188
	97,626	78,938
	$327,031	$286,052

Approved by the Board: C. J. CARTER, *Director* R. G. MEECH, *Director*

CHANGES IN FINANCIAL POSITION

	1978	1977
WORKING CAPITAL PROVIDED		
Net earnings	$ 20,313	$ 14,317
Charges not affecting working capital:		
Depreciation	16,731	17,026
Increase in deferred income taxes	18,995	10,628
Debenture issue expense	—	694
GENERATED FROM OPERATIONS	56,039	42,665
Proceeds from issue of:		
8¾% debentures	—	20,302
Income debentures	—	31,674
Sale of fixed assets	107	109
	56,146	94,750
WORKING CAPITAL USED		
Expenditures on fixed assets	7,671	6,337
Reduction of long-term debt	37,084	13,270
Dividends declared	1,625	—
	46,380	19,607
INCREASE IN WORKING CAPITAL	9,766	75,143
Working capital (deficiency) at beginning of year	26,661	(48,482)
WORKING CAPITAL at end of year	$ 36,427	$ 26,661

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS Year ended December 31, 1978

1. Summary of Significant Accounting Policies

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the financial position and results of operations of Great Lakes Forest Products Limited and all its subsidiary companies.

FOREIGN EXCHANGE

Current assets and current liabilities in foreign currencies are translated into Canadian dollars at current rates of exchange at the date of the balance sheet. Other assets and liabilities and items affecting earnings are converted at rates of exchange in effect at the dates of the transactions.

INVENTORIES

Inventories are valued at average cost which is less than net realizable value.

FIXED ASSETS AND DEPRECIATION

Fixed assets are recorded at cost. The cost and related accumulated depreciation of items disposed of are removed from the accounts and any gain or loss is included in earnings. Depreciation is based on the estimated economic lives of the assets, using the following methods and composite rates of depreciation:

Buildings and machinery	
Pulp and paper	4½% straight line
Building products	10% straight line
Woodlands improvements and equipment	30% diminishing balance

No depreciation is charged on major improvements or expansions until construction has been completed.

DEFERRED INCOME TAXES

Income taxes are charged against earnings based on the items included within the determination of those earnings irrespective of any timing differences for the recognition of certain items under current tax legislation. The excess of the income taxes charged to earnings over the amount actually

payable in any year is set aside as deferred income taxes to be drawn upon in future years when tax payments exceed the amount charged to earnings.

INTEREST

Interest on debt incurred to finance major expansion programs, less any interest earned on the temporary investment of the proceeds, is capitalized during the construction period.

FULLY DILUTED EARNINGS PER SHARE

Fully diluted earnings per share are shown for the current year and are determined on the assumption that warrants and options outstanding at the end of the year were exercised at the beginning of the year and the funds therefrom invested to produce a return at the average interest rate for 90-day bank certificates of deposit.

2. Fixed Assets (thousands of dollars)

	December 31, 1978		December 31, 1977
	Cost	Net Value	Net Value
Land	$ 482	$ 482	$ 482
Buildings and machinery			
Pulp and paper	317,560	196,422	203,054
Building products	24,820	15,265	16,742
Woodlands improvements and equipment	22,893	5,444	6,502
Timber licences	3,945	–	–
	$369,700	$217,613	$226,780

3. Lease Commitments

The company has signed leases (with options to purchase) covering certain portable camp buildings and mobile equipment for terms of three to 11 years. The payments under these leases amounted to $3.8 million in 1978. Based on leases in effect at December 31, 1978 payments over the next five years will amount to approximately $3.5 million in 1979, $2.9 million in 1980, $2.8 million in 1981, $1.5 million in 1982 and $800,000 in 1983.

4. Long-Term Debt

In 1978 the maturity of the income debentures was extended by one year to 1980. These income debentures, which bear a floating rate of interest, are included in current liabilities, however, as the company intends to prepay this issue in 1979. The current portion of long-term debt includes an adjustment of $3.5 million charged to earnings resulting from translation of these U.S. dollar debentures at the December 31, 1978 rate of exchange.

The term loan, which bears a floating rate of interest and can be prepaid at the option of the company, is payable to Canadian Pacific Securities Limited, a wholly-owned subsidiary of Canadian Pacific Investments Limited, the majority shareholder of the company.

Payments required to meet maturities and sinking fund provisions of long-term debt over the next five years, including the prepayment of the income debentures referred to above, amount to $41 million in 1979, $11 million in each of the years 1980 and 1981 and $7 million in each of the years 1982 and 1983.

5. Warrants and Options

Common shares were reserved at December 31, 1978 for the following:

a) 199,990 shares for the common share purchase warrants which accompanied the First Mortgage Sinking Fund Bonds, Series B. The warrants are exercisable at $33.00 per share until July 1, 1979.

b) 100,000 shares for a purchase option granted to Canadian Pacific Investments Limited. The option is exercisable at $24.00 per share until January 1, 1982. Both the number of shares and the price per share are subject to adjustment in the event additional shares are issued, other than pursuant to the warrants described above, or other changes in the company's capital structure.

6. Dividend Restriction

Certain of the indentures relating to the company's long-term debt contain covenants limiting dividends. The most restrictive of these requires that, after any dividend is declared, working capital (which for these purposes is before the deduction of the current portion of long-term debt) must be over $10 million and shareholders' equity must be over $50 million.

7. Interest

Interest on long-term debt amounted to $11.9 million (1977–$11.4 million).

8. Executive Remuneration

In 1978, directors' fees amounted to $49,000. The total remuneration, including directors' fees, received by the directors and senior officers amounted to $537,000.

9. Past Service Pension Costs

Past service pension costs, resulting from retroactive increases in benefits in 1978 and prior years, are being funded and charged to earnings over 15-year periods from the dates such costs were established. Based on recent actuarial reports, the unfunded amount was $4.2 million at December 31, 1978.

10. Investment Tax Credits

Due to the company's tax position, investment tax credits for the years 1975 through 1978 have not been used. These credits can be carried forward for five years. At December 31, 1978 investment tax credits are available to reduce future income taxes payable by $5.9 million and income taxes to be charged against earnings by an estimated $3.3 million which is net of deferred income taxes.

11. Change of Name

Effective January 1, 1979 the company has changed its name from The Great Lakes Paper Company, Limited to Great Lakes Forest Products Limited.

NEWSPRINT PAPER

The United States is Canada's principal customer for newsprint and accounts for over 40 percent of the free-world's consumption. The following table, based on reports issued by Canadian Pulp and Paper Association (CPPA), indicates the size and growth of newsprint markets over the period 1969 through 1978. World totals in newsprint omit communist countries for which reliable information is lacking.

Note: All tonnage figures for newsprint and pulp have been converted to metric.

	1969	1970	1971	1972	1973	*1974	1975	1976	1977	1978
					(millions of metric tons)					
Free-world production capacity	20.3	21.1	21.5	21.9	22.2	21.8	21.9	22.5	23.1	23.7
Free-world production	18.7	19.1	18.8	19.5	20.3	20.5	18.4	19.8	20.1	21.2
Canadian production capacity	8.8	8.9	9.3	9.3	9.3	9.1	**9.0	9.0	9.0	9.0
Canadian production	8.0	7.9	7.7	8.0	8.3	8.6	7.0	8.1	8.2	8.8
Canadian exports	7.4	7.3	6.9	7.4	7.5	7.9	6.3	7.1	7.3	8.0
Canadian exports to U.S.	5.8	5.6	5.5	5.8	6.3	6.3	5.0	5.7	5.8	6.4
Total U.S. consumption	9.0	8.8	8.9	9.5	9.8	9.3	8.4	8.7	9.3	9.9

Source: American Newspaper Publishers Assoc. and CPPA (1978 estimated).

*Tonnage from 1974 on reflects the change in grammage (basis weight) from 52 to 48.8 grams per square metre that occurred generally throughout the newsprint industry in North America.

**Not comparable with previous years due to revised method of calculation beginning in 1975.

BLEACHED KRAFT PULP

Bleached kraft pulp is included in the general commodity classification of paper grade chemical pulp. North America and Scandinavia are the major suppliers of paper grade chemical pulp, having a production capacity in 1978 of approximately 62.2 million metric tons or 67 percent of the world's total production capacity. The bulk of the pulp produced by these countries is captive production for use by the producers or affiliated companies. The balance, known as market pulp, is available for sale on the open market. Most of this market pulp consists of bleached kraft pulp. In 1978 the production capacity in North America and Scandinavia for market bleached kraft pulp was approximately 13.5 million metric tons of which Canadian production capacity amounted to approximately 44 percent, or 5.9 million metric tons. Our company is a major supplier to this market.

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
					(millions of metric tons)					
Paper Grade Chemical Pulp										
North American and Scandinavian production	46.1	47.4	46.7	50.0	53.3	54.2	46.8	52.7	53.2	55.5
Bleached Kraft Pulp										
North American and Scandinavian production	19.1	20.4	20.6	22.1	24.1	25.0	22.1	25.0	25.8	27.7
Bleached Kraft Market Pulp										
Total demand for North American and Scandinavian production	8.2	8.7	7.6	9.4	10.4	10.6	8.5	9.9	10.2	12.1
Canadian shipments	3.4	3.4	3.4	4.0	4.5	4.8	3.6	4.5	4.6	5.3
Canadian exports to U.S.	1.5	1.4	1.4	1.6	1.7	1.8	1.4	1.7	1.8	1.9
Total U.S. supply (including imports)	2.8	2.5	2.5	3.3	3.3	3.3	2.5	3.2	3.3	3.7

Source: CPPA (1978 estimated).

LUMBER

Residential construction provides the principal use for softwood lumber produced in Canada and the U.S., a substantial portion of which is stud lumber. The following table indicates the level of housing construction and the sources of softwood lumber production in North America over the past ten years.

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
					(millions)					
North American housing starts	1.7	1.6	2.3	2.6	2.3	1.6	1.4	1.8	2.2	2.3
Seasonally adjusted year-end rate of North American housing starts	1.6	2.1	2.6	2.6	1.7	1.0	1.6	2.2	2.5	2.3
Softwood lumber production					(billions FBM)					
U.S.	28.3	27.4	29.7	31.4	31.3	28.0	26.0	29.7	31.7	31.4
British Columbia	7.7	7.7	8.9	9.5	10.3	8.8	7.2	10.5	12.0	12.4
Rest of Canada	3.3	3.1	3.3	3.9	4.9	4.3	3.5	4.3	5.2	5.8
Total	39.3	38.2	41.9	44.8	46.5	41.1	36.7	44.5	48.9	49.6

Sources are: Statistics Canada, U.S. Bureau of Census, National Assn. of Home Builders (U.S.), Western Wood Products Assn. and Southern Forest Assn., National Forest Products Assn. (1978 estimated).

BOARD

Waferboard is a relatively new construction board produced primarily in Canada. It competes in its uses with the exterior grades of softwood plywood sheathing which represent approximately 50 percent of all softwood plywood production. Statistics are not available for periods prior to 1973.

Particleboard is an established interior grade of board used primarily in the furniture and cabinet-making industry.

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
					(billions of square feet)					
Softwood plywood (⅜-inch basis)										
U.S. production	13.5	13.8	15.8	17.8	18.3	17.1	16.0	18.4	19.7	19.9
Canada production	1.5	1.5	1.8	2.0	2.1	2.1	2.0	2.4	2.7	3.0
Waferboard (⅜-inch basis)										
Canada production					.1	.1	.2	.4	.4	.5
Particleboard (¾-inch basis)										
U.S. production	1.7	1.8	2.4	3.1	3.5	3.1	2.5	3.2	3.6	3.6
Canada production	.1	.1	.2	.2	.2	.2	.2	.3	.3	.4

Source: Dept. of Industry, Trade and Commerce, American Plywood Assoc., National Particleboard Assoc. (1978 estimated).

OUR SHIPMENT SUMMARY: LAST TEN YEARS

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Newsprint (000 metric tons)	318	304	309	308	376	315	242	298	338	362
Chemical pulp (000 metric tons)	152	168	151	151	169	161	100	118	304	327
Total (000 metric tons)	470	472	460	459	545	476	342	416	642	689
Stud lumber (millions of board feet)					5	32	32	45	86	103
Waferboard (millions of sq. ft.—⅜-inch thickness)							14	48	75	97

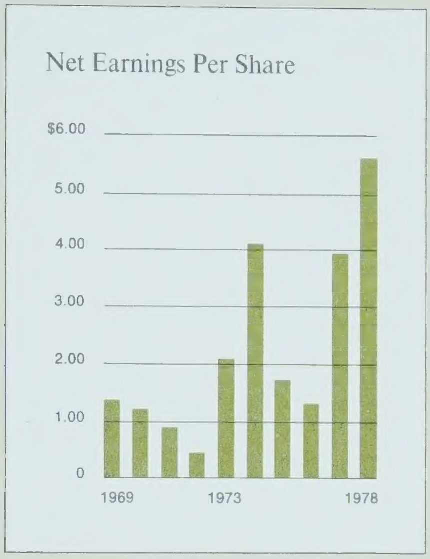
While waferboard is manufactured in varying thicknesses, for comparative purposes with the industry statistics above our shipment volume is shown here on a ⅜-inch equivalent basis.

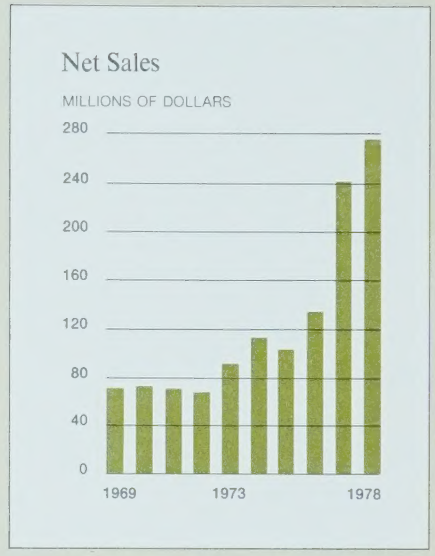
FINANCIAL SUMMARY: LAST TEN YEARS

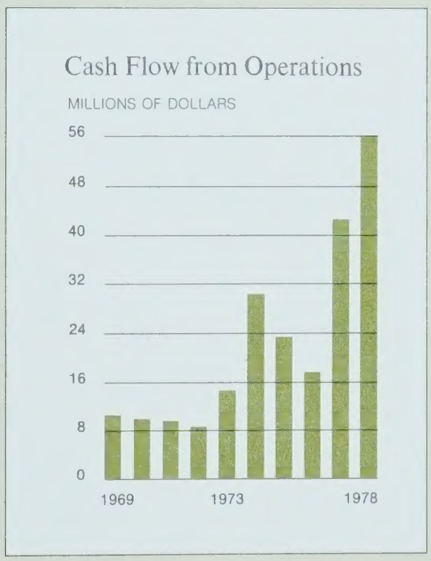
Except as indicated, dollars are in thousands with 000 omitted	1978	1977	1976	1975	1974	1973	1972
SALES & EARNINGS							
Net sales: pulp and paper	239,990	216,534	124,371	100,508	110,977	92,237	69,433
building products	37,372	24,914	11,943	5,259	3,465	584	–
total	277,362	241,448	136,314	105,767	114,442	92,821	69,433
Operating profit	71,451	56,991	22,156	24,494	35,441	21,360	10,892
Interest expense	12,247	13,552	3,979	2,764	1,733	1,859	2,043
Depreciation	16,731	17,026	9,635	9,162	7,267	6,454	6,085
Earnings before income taxes	40,169	25,879	8,764	11,815	26,625	13,161	2,927
Income taxes	19,856	11,562	3,897	5,388	11,687	5,540	1,319
Net earnings	20,313	14,317	4,867	6,427	14,938	7,621	1,608
Net earnings per share	5.63	3.97	1.35	1.78	4.14	2.11	0.45
Dividends declared, total amount	1,625	–	–	–	–	–	1,081
Dividends per share; in cents	45	–	–	–	–	–	30
ASSETS & LIABILITIES							
Current assets	109,418	59,272	55,048	30,185	27,692	30,191	24,940
Current liabilities	72,991	32,611	103,530	46,481	24,966	16,001	11,790
Ratio of above assets to liabilities	1.5	1.8	.5	.6	1.1	1.9	2.1
Working capital (deficiency)	36,427	26,661	(48,482)	(16,296)	2,726	14,190	13,150
Inventories, described in balance sheet	27,628	25,706	28,293	25,129	15,761	10,874	10,260
Fixed assets, see notes to financial statements	369,700	362,369	356,391	284,242	207,999	158,378	147,718
Accumulated depreciation and depletion	152,087	135,589	118,813	109,381	100,444	93,423	87,892
Long-term debt	89,746	126,830	87,430	65,060	30,650	23,025	25,430
Ratio of above debt to shareholders' equity	.9	1.6	1.4	1.1	.6	.6	.8
Deferred income taxes	66,668	47,673	37,045	33,751	26,304	17,731	16,963
Retained earnings, at year end	94,876	76,188	61,871	57,004	50,577	35,639	28,018
EQUITY & OTHER DATA							
Common shares outstanding, at year end	3,610,039	3,610,029	3,610,029	3,610,029	3,610,029	3,610,029	3,602,603
Number of shareholders	2,727	2,912	3,116	3,529	3,745	4,035	4,470
Percentage of shares held in Canada	97.9	97.8	97.6	96.9	96.9	97.0	96.0
Shareholders' equity, total	97,626	78,938	64,621	59,754	53,327	38,389	30,583
Shareholders' equity per share	27.04	21.87	17.90	16.55	14.77	10.63	8.49
Cash flow from operations	56,039	42,665	17,796	23,848	30,778	14,843	8,501
Cash flow per share	15.52	11.82	4.93	6.61	8.53	4.11	2.36
Net earnings percentage on net sales	7.3	5.9	3.6	6.1	13.1	8.2	2.3
Annual expenditures on fixed assets	7,671	6,337	72,399	76,540	49,997	12,137	4,455
Number of employees on payroll	3,831	3,863	3,471	3,110	3,013	2,778	2,441

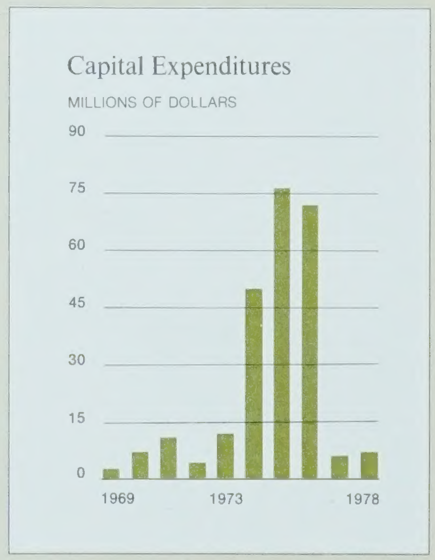
All per share figures are based on shares outstanding at the end of the respective years.

1971	1970	1969
71,010	71,822	71,267
—	—	—
71,010	71,822	71,267
13,446	15,728	17,951
2,306	2,537	2,036
5,843	5,873	6,528
5,747	8,820	10,446
2,510	4,475	5,407
3,237	4,345	5,039
0.90	1.21	1.40
2,342	3,603	3,603
65	100	100
25,535	33,324	41,073
13,124	12,718	14,739
1.9	2.6	2.8
12,411	20,606	26,334
9,753	9,279	9,440
143,808	132,877	126,227
82,242	76,630	71,392
27,766	32,167	36,970
.9	1.1	1.3
16,155	15,525	15,780
27,491	26,596	25,854
3,602,603	3,602,603	3,602,603
4,919	5,209	5,418
95.5	95.3	93.1
30,056	29,161	28,419
8.34	8.09	7.89
9,710	9,963	10,317
2.70	2.77	2.86
4.6	6.0	7.1
11,191	7,446	2,704
2,527	2,768	2,857









1978 Results by Quarters

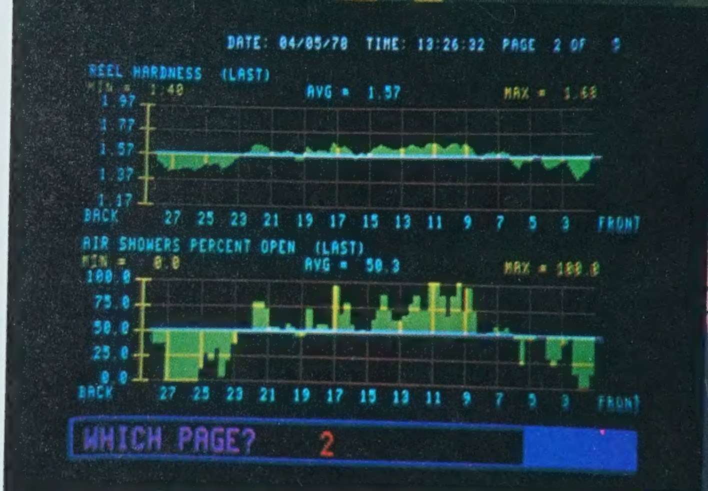
Sales and Earnings '000 omitted

1978 Quarterly

Quarter	Net Sales	Oper. Profit	Net Earnings
First	$ 62,234	$12,957	$ 2,557
Second	68,028	15,112	4,584
Third	64,961	16,265	4,477
Fourth	82,139	27,117	8,695
	$277,362	$71,451	$20,313

Net Earnings Per Share

Quarter	1974	1975	1976	1977	1978
First	$0.99	$1.62	$(0.88)	$0.45	$0.71
Second	1.20	1.32	0.69	1.14	1.27
Third	1.59	0.33	0.58	1.01	1.24
Fourth	0.36	(1.49)	0.96	1.37	2.41
	$4.14	$1.78	$ 1.35	$3.97	$5.63



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AVG = 1.57
MAX = 1.68
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1.77
1.57
1.37
1.17
BACK 27 25 23 21 19 17 15 13 11 9 7 5 3 FRONT
AIR SHOWERS PERCENT OPEN (LAST)
MIN = 0.0
AVG = 50.3
MAX = 100.0
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75.0
50.0
25.0
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BACK 27 25 23 21 19 17 15 13 11 9 7 5 3 FRONT
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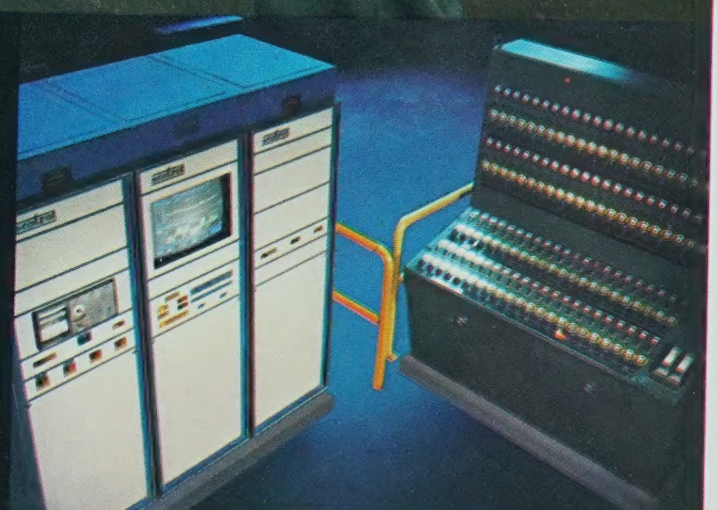

BACKTENDER'S FRIEND

To ensure that our newsprint sheet runs smoothly on customers' presses and meets the requirement for consistent quality, uniform hardness must be maintained across the paper roll as it is wound on the reel. This is the responsibility of a backtender such as Bruce Higgins, shown opposite, who formerly tapped the running roll with a stick to check for variations in roll hardness. As he encountered variations, they were corrected by applying expansion or contraction manually to specific areas in the series of rollers known as the calender stack where finishing of the paper takes place prior to the roll stage. This is now done by a computer in a unique process using a system of hot and cold air jets, or showers, to adjust expansion or contraction across the calender stack, thereby automatically regulating the hardness of the paper roll as profiled on the top line of the computer video screen, lower left. A small sensing wheel, indicated by the arrow above, known as a "backtender's friend" runs continuously back and forth along the bottom of the paper roll and feeds the necessary information on the condition of the roll to the computer. The bottom line on the computer screen shows the position of the many valves regulating the hot and cold air showers by means of the console to the right of the computer in the bottom right picture.